



Programming Languages Landscape

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OUTLINE



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EXECUTIVE SUMMARY



- Consistency in preferences of currently used and desired Programming Languages and OS
- Mismatch between preferences of currently utilized and desired DBMS and WebFrame
- Enterprises can continue to focus on Education & Training/ Licenses for existing Programming Languages using existing OS
- Enterprises can explore trend towards Openware and/or NoSQL DBMS and away from traditional offerings based on cost/benefit analysis

INTRODUCTION



- Based on results of [Stack Overflow Developer Survey 2023](#).
- The aim is to identify future skills requirements for Programming Languages, DBMS, OS and WebFrame in the IT industry.
- The target audience for this presentation are Management, HR Dept., and other Stakeholders.

METHODOLOGY



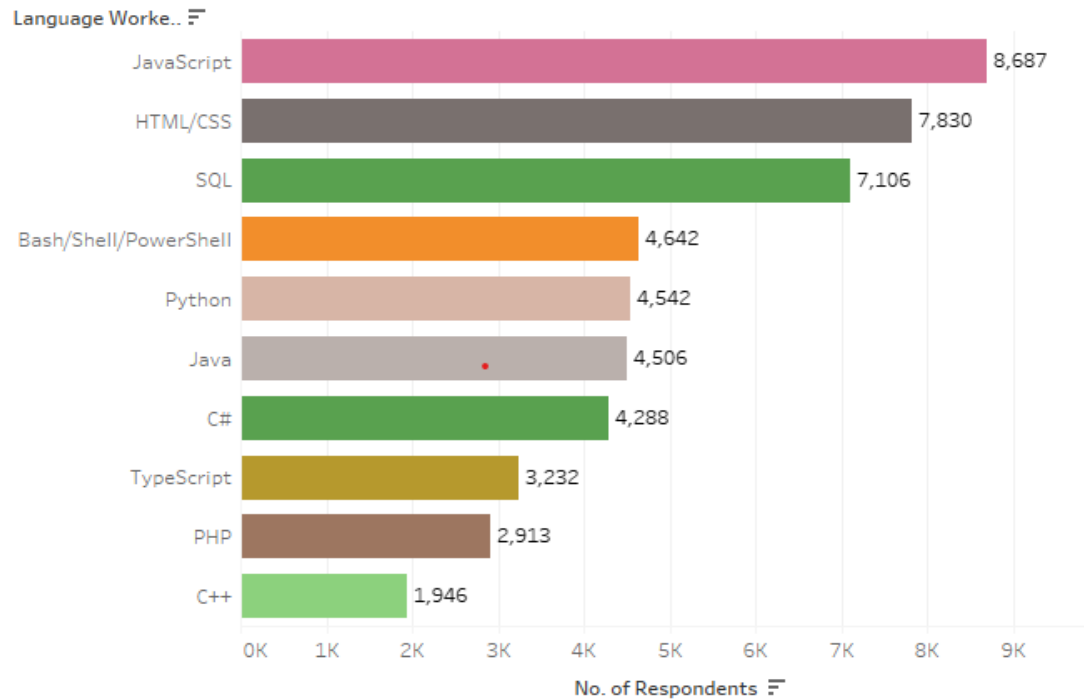
- Data Sourcing
 - StackOverFlow Developer Survey 2023 – API
 - Programming Languages Annual Salary –Web Scraping
- Data Wrangling
 - Removing Duplicates, Impute Missing Data
- Data Analysis
 - Statistical Distribution, Outliers, Correlation
- Data Visualization
- Presentation

RESULTS

PROGRAMMING LANGUAGE TRENDS

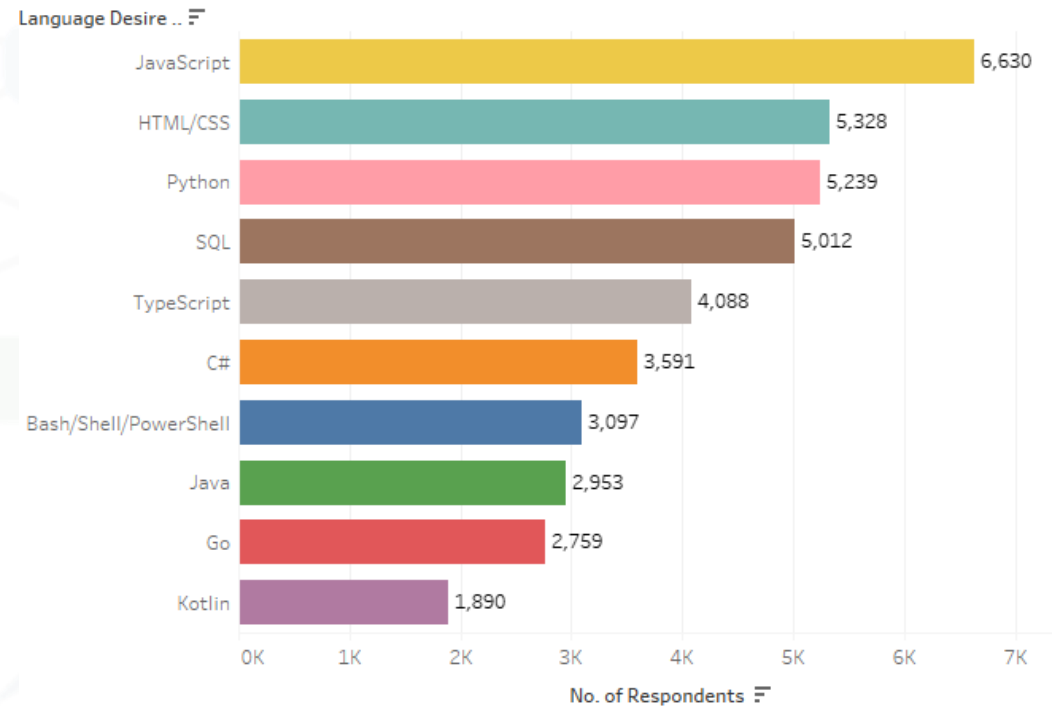
Current Year

Top 10 LanguageWorkedWith



Next Year

Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML and SQL are the top currently used and desired Programming Languages.
- TypeScript is an up-and-coming language desired by programmers.
- New languages desired such as Go and kotlin

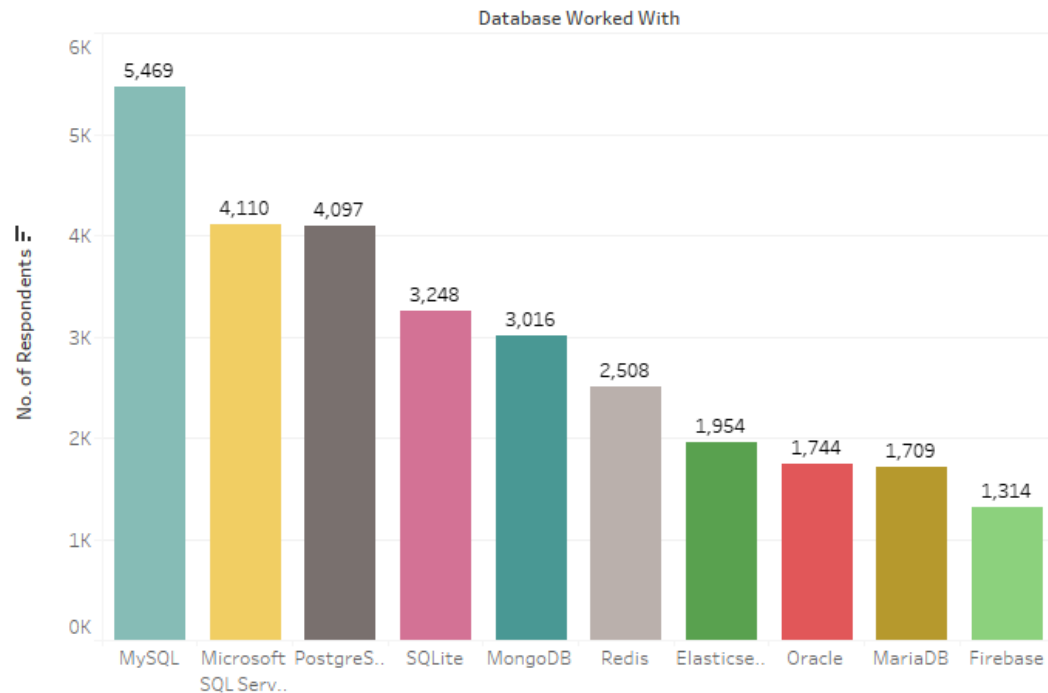
Implications

- Continue to focus resources on JavaScript, HTML and SQL environment.
- Enterprises should explore channeling resources to Typescript environment.
- Enterprises should be receptive of new languages that can aid programmers in efficiency.

DATABASE TRENDS

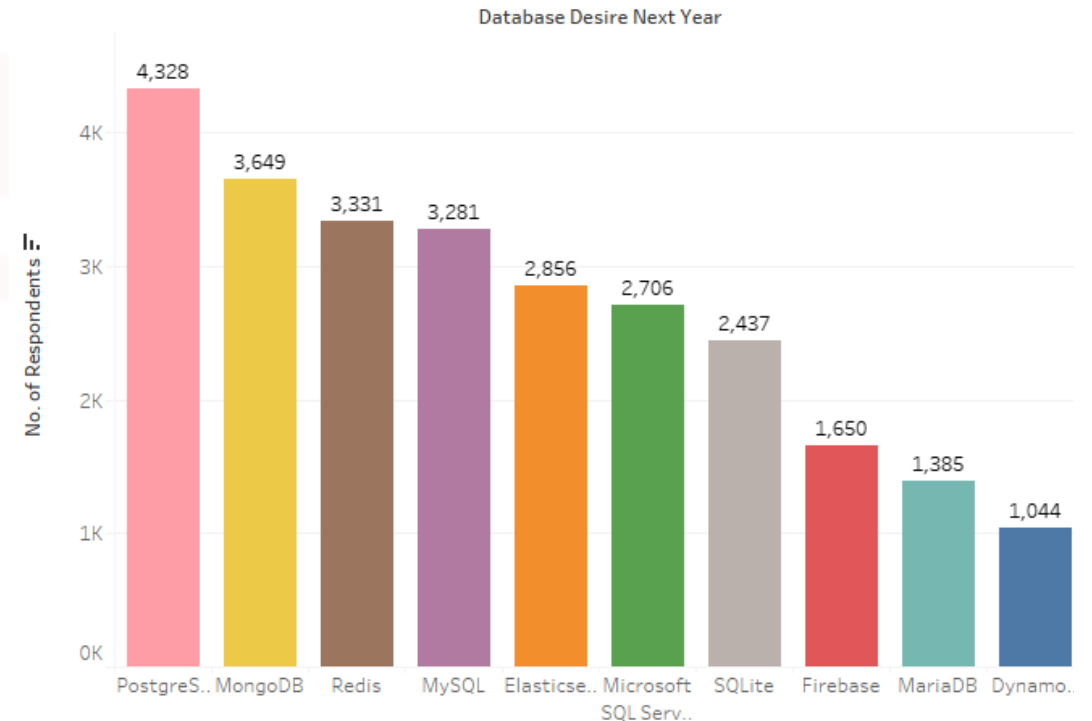
Current Year

Top 10 Database Worked With



Next Year

Top 10 Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Top 2 current DBMS (MySQL and Microsoft SQL Server) have been replaced by PostgreSQL and MongoDB.
- Other DBMS such as Redis, Elasticsearch, Firebase and Dynamo gaining ground

Implications

- Programmers are moving away from established, paid DBMS towards Openware DBMS
- Programmers are working increasingly more with No SQL data

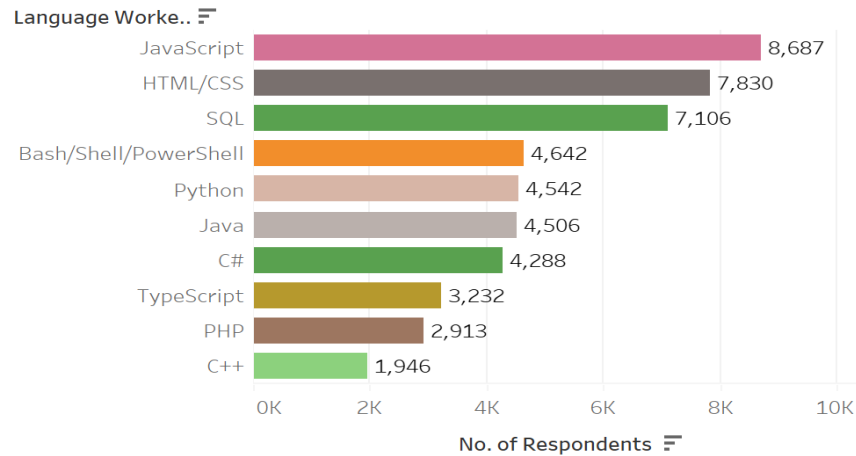
DASHBOARD



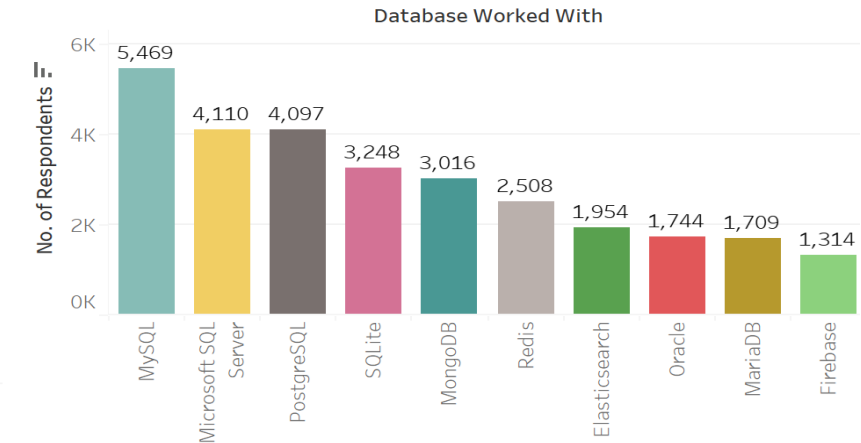
https://public.tableau.com/app/profile/guo.piao.chew/viz/IBM-Capstone-Project_17013101229240/CurrentTechnologyUsage?publish=yes

DASHBOARD TAB 1

Top 10 LanguageWorkedWith



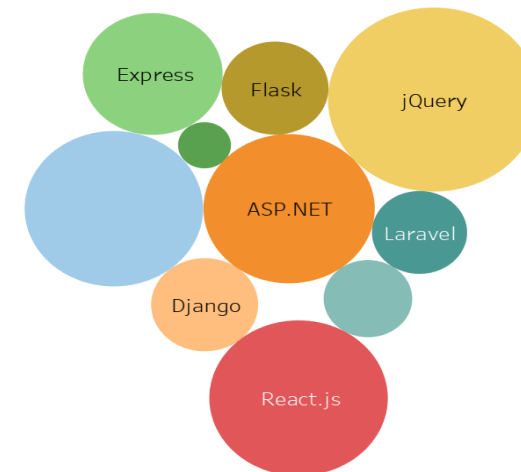
Top 10 DatabaseWorkedWith



PlatformWorkedWith

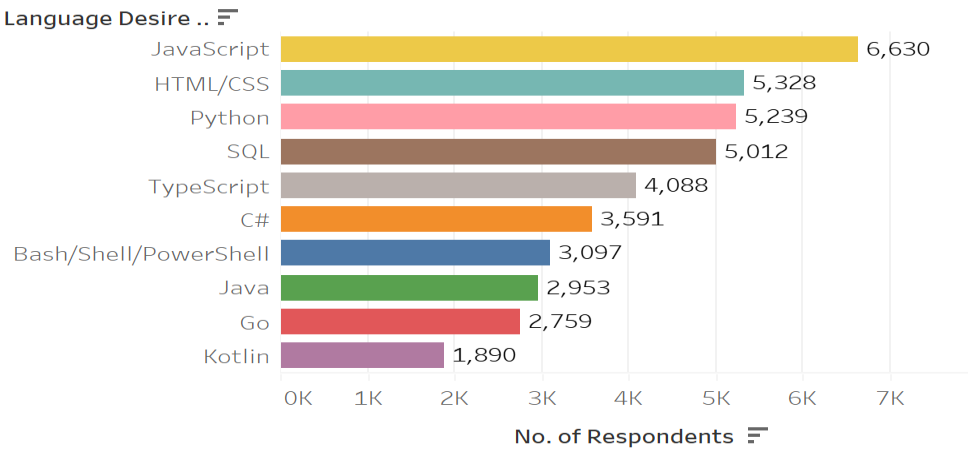


Top 10 WebFrameWorkedWith

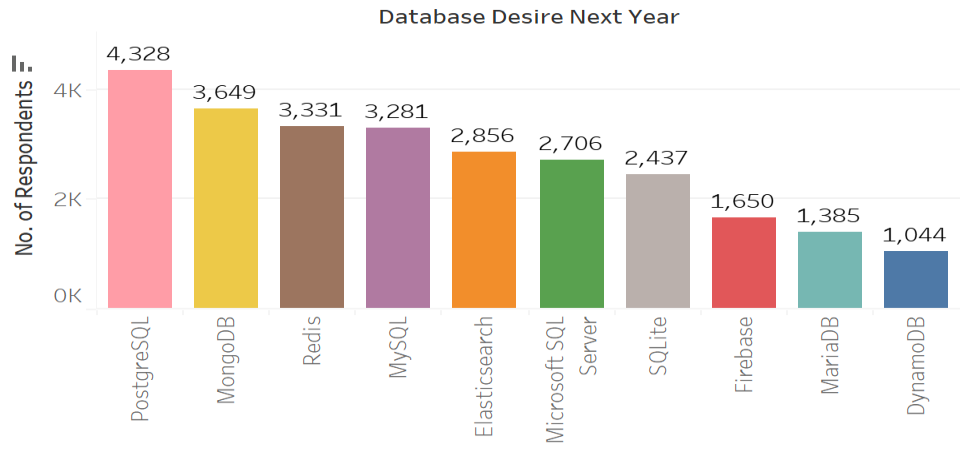


DASHBOARD TAB 2

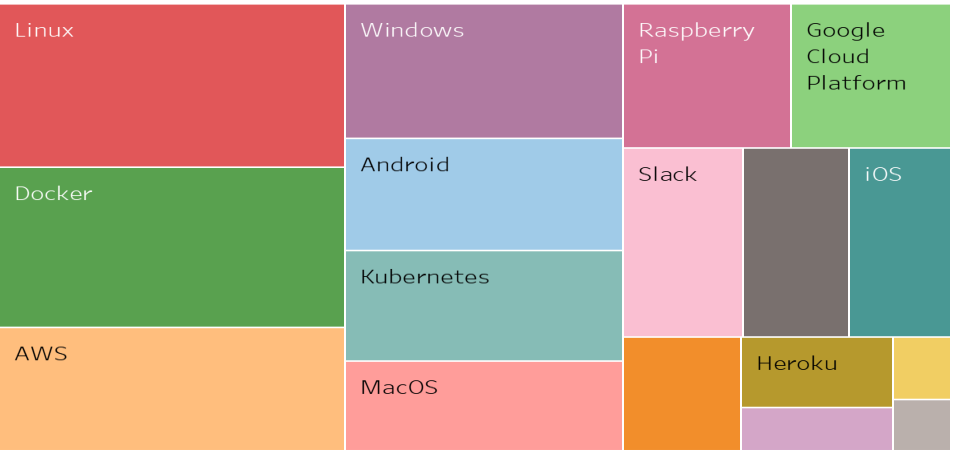
Top 10 LanguageDesireNextYear



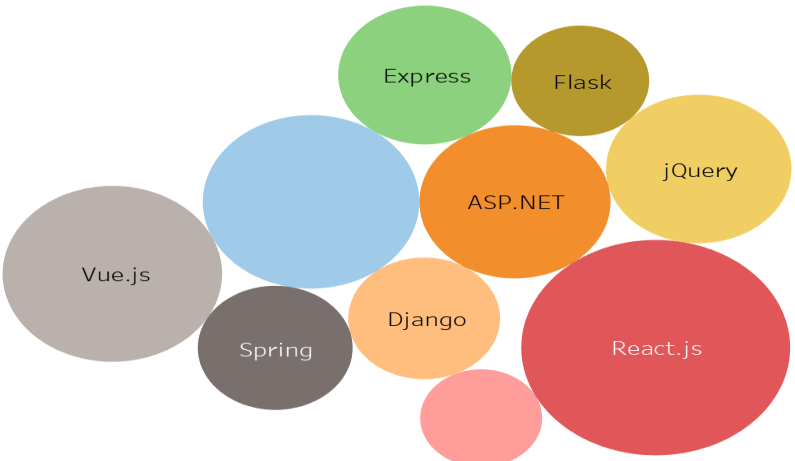
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear

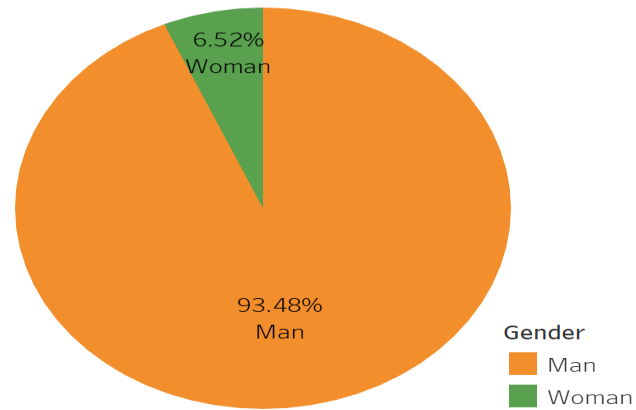


Top 10 WebFrameDesireNextYear

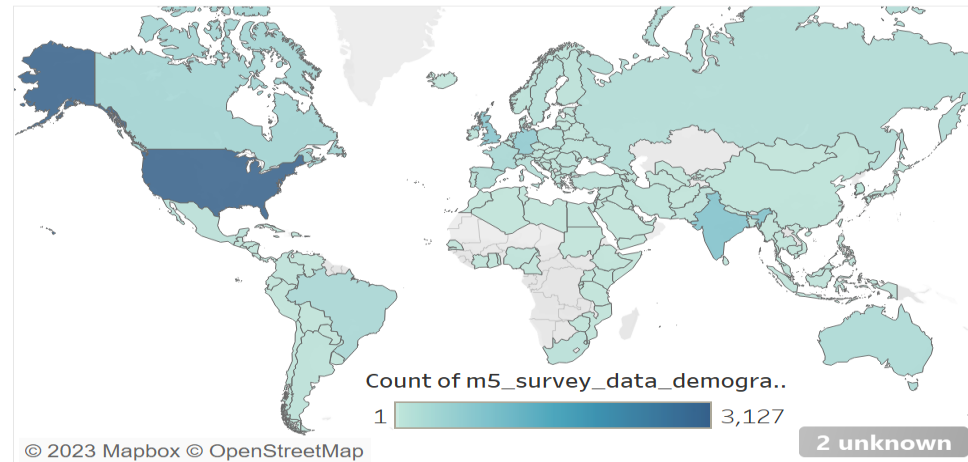


DASHBOARD TAB 3

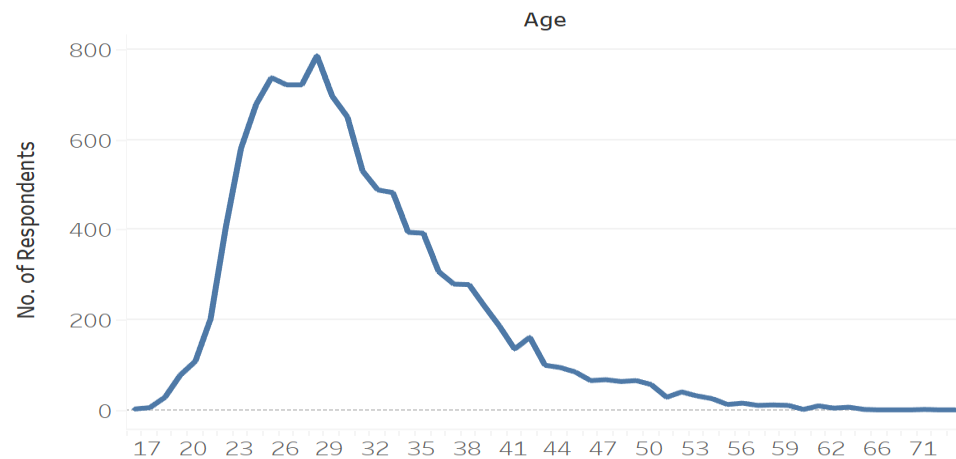
Respondent classified by Gender



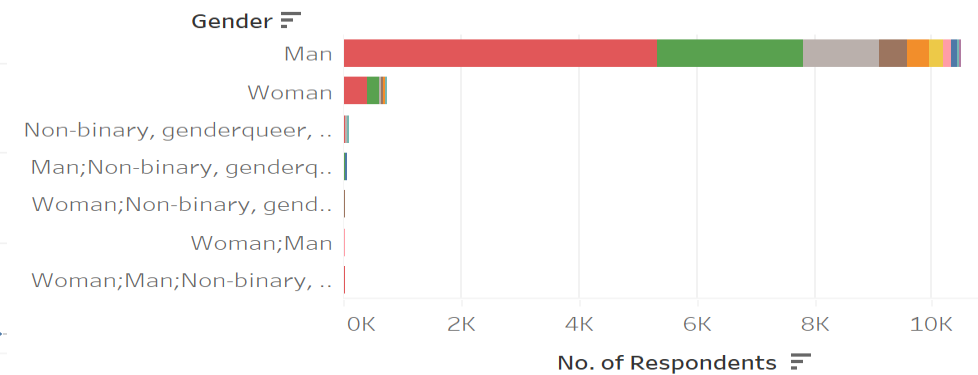
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



- Constant adoption of new languages/DBMS for better efficiency.
- Migration of DBMS from traditional paid services to openware services.
- Trend towards No SQL databases.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Constant adoption of new languages/DBMS for better efficiency.
- Migration of DBMS from traditional paid services to openware services.
- Trend towards No SQL databases.

Implications

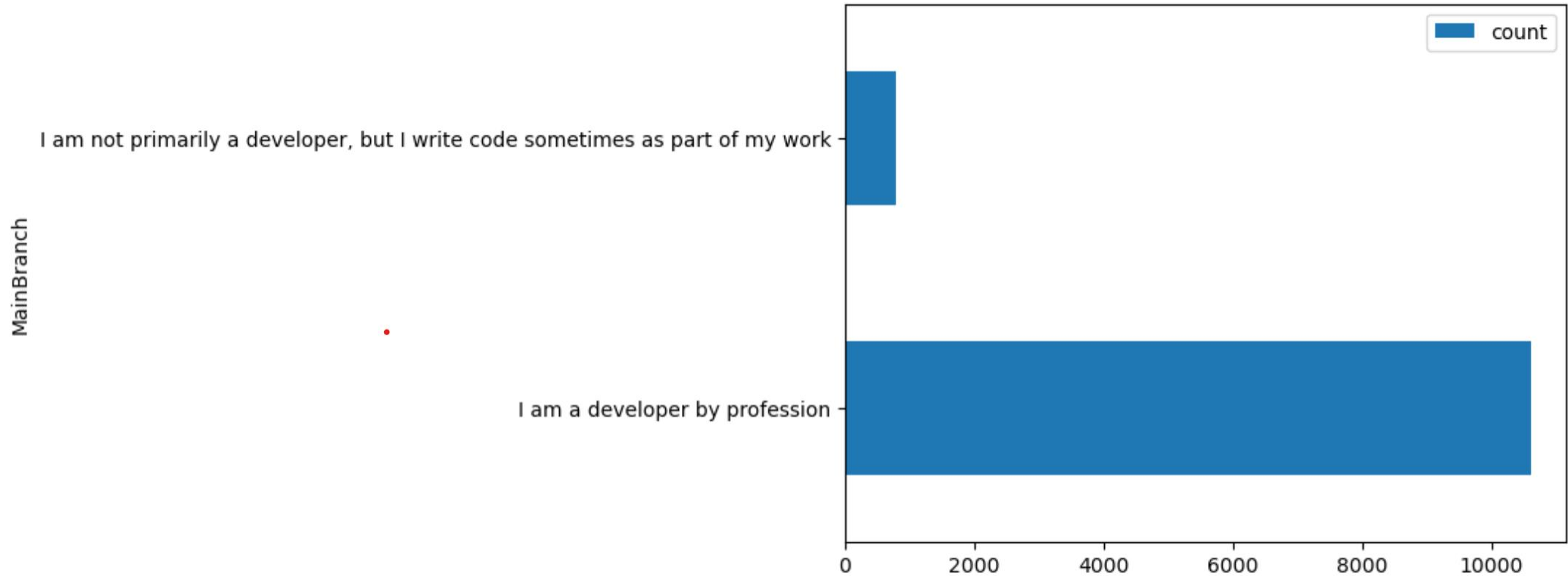
- Enterprises have to adopt agile approach in
- Enterprises should be receptive of wider programming background.
- Enterprises should invest in continual education and training.

CONCLUSION

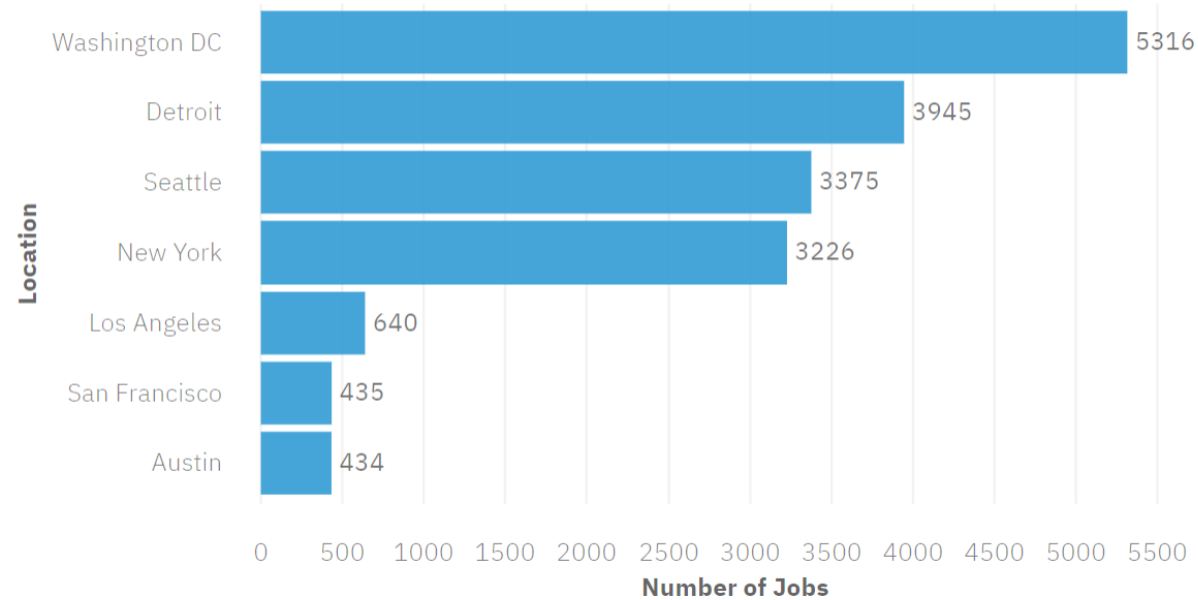


- Regular conduct of such surveys is vital to better understand the development in the programming landscape.
- Enterprises should be flexible and proactive in seeking out optimum set-up for their operations.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

